

**Notice of Allowability**

Application No.

09/743,690

Examiner

Anne R. Kubelik

Applicant(s)

CHRISTELLER ET AL

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed 7/29/04 and 7/26/04.
2. ☒ The allowed claim(s) is/are 66-86, renumbered 1-21, respectively.
3. ☒ The drawings filed on 23 May 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***PROPOSED Examiner's Amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Carol Fang on 22 December 2004.

IN THE CLAIMS:

66. (New) An isolated nucleic acid molecule comprising:

(i) a first nucleic acid sequence that encodes a vacuole targeting polypeptide operably linked to ; and

(ii) a second nucleic acid sequence, ~~linked in operable combination to the first nucleic acid sequence,~~ that encodes a biotin binding protein selected from the group consisting of:

(a) avidin; and

(b) streptavidin;

(c) ~~CORE~~ streptavidin;

(d) ~~synthetic CORE~~ streptavidin; or and

(e) ~~SYNSAV~~.

In claim 72, lines 1-2 "a member" was deleted.

In claim 76, line 1, "77" was replaced with --66--.

Claim 81. (Currently amended) A method for producing ~~the~~ a biotin-binding protein encoded by, said method comprising the steps of:

- (a) culturing a host cell which has been transformed with a vector comprising the nucleic acid molecule according to claim 77 to produce an expressed biotin-binding protein; and
- (b) recovering the expressed biotin-binding protein.

Claim 82. (Currently amended) A method for producing a pest resistant plant, said method comprising transforming the plant genome ~~to include~~ with at least one nucleic acid molecule according to claim 77, thereby producing a pest resistant plant.

Claim 83. (Currently amended) A transgenic plant that ~~comprising~~ comprises the nucleic acid molecule according to claim 77.

Claim 84. (Currently amended) A transgenic plant expressing pesticidally effective concentrations of the biotin-binding protein, wherein the plant comprises encoded by the nucleic acid molecule according to claim 66.

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85. (New) A method for producing a biotin-binding protein, said method comprising extracting ~~the protein~~ avidin or streptavidin from a plant transformed with the nucleic acid molecule according to claim ~~67~~ 66.

Claim 86. (Currently amended) Seed that is the product of the plant according to claim ~~73~~ 83, wherein the seed comprises the nucleic acid molecule according to claim ~~66~~.

IN THE ABSTRACT:

This invention relates to nucleic acids encoding chimeric polypeptides comprising vacuole targeting sequences and ~~plant-noxious sequences~~ encoding avidin or streptavidin and especially pest control proteins. ~~The polypeptides are useful in methods for targeting non-vacuolar harmful proteins to plant vacuoles. Chimeric polypeptides of the invention containing pest control proteins~~ The nucleic acids are useful for conferring pest resistance on plants and in the production of compositions useful as pesticides.

IN THE TITLE:

PEST-RESISTANT PLANTS COMPRISING A CONSTRUCT ENCODING A  
VACUOLE TARGETING SEQUENCE AND AVIDIN OR STREPTAVIDIN  
~~NUCLEIC ACIDS ENCODING CHIMERIC POLYPEPTIDES ALLOWING~~  
~~EXPRESSION OF PLANT-NOXIOUS PROTEINS~~

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2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

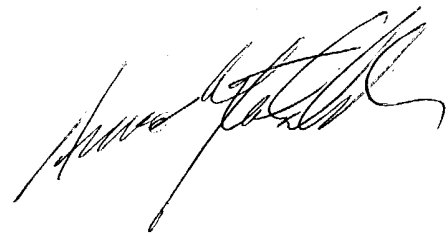
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (571) 272-0804. The central fax number for official correspondence is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne R. Kubelik, Ph.D.  
December 22, 2004



**ANNE KUBELIK  
PATENT EXAMINER**